

Lab Report Form

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Course: Advanced Chemistry

Title of Lab Experiment: Colors in Chemistry

Purpose: To see how chemical reactions create interesting colors

Materials:

- Two test tubes
- Two test tube caps
- Chemical scoop
- Plastic dropper
- Cobalt chloride
- Sodium ferrocyanide
- Ferric ammonium sulfate
- Safety goggles
- Paper towel

Procedure:

1. Fill two test tubes $\frac{1}{4}$ of the way with water
2. Use the chemical scoop and place one measure of cobalt chloride into one of the test tubes with water
3. Cap the test tube with the cobalt chloride and shake
4. Rinse the chemical scoop and dry it with paper towel
5. Add one measure of sodium ferrocyanide to the other test tube with water in it
6. Cap the test tube with sodium ferrocyanide and shake
7. Take the caps off of both the test tubes and pour the tube with sodium ferrocyanide into the test tube with cobalt chloride
8. Cap the test tube and shake
9. After viewing the results, rinse the test tubes and caps and fill them $\frac{1}{4}$ of the way with water
10. Add one measure of sodium ferrocyanide to one of the test tubes with water
11. Cap the test tube with sodium ferrocyanide and shake
12. Add one measure of ferric ammonium sulfate to the other test tube
13. Cap the test tube with ferric ammonium sulfate and shake
14. Uncap both test tubes and pour the test tube with sodium ferrocyanide into the test tube with ferric ammonium sulfate
15. Cap the test tube and shake

16. Rinse out all equipment used and put everything away

Data:

Reaction 1:

| | | |
|------------------|----------------------|-----------------|
| Chemical | Sodium Ferrocyanide | Cobalt Chloride |
| Color with water | A Light-yellow color | Deep red |

Reaction 2:

| | | |
|------------------|----------------------|-------------------------|
| Chemical | Sodium Ferrocyanide | Ferric Ammonium Sulfate |
| Color with water | A Light-yellow color | A Yellow-orange color |

Results:

Reaction 1:

| | |
|-------------------------------|-------|
| Color of water after reaction | Green |
|-------------------------------|-------|

Reaction 2:

| | |
|--------------------------------|-----------|
| Color of water after reaction: | Deep blue |
|--------------------------------|-----------|

Conclusions:

The color of chemical reactions does not change based on color theory, but rather on the pH.

References:

Advanced Chemistry in Creation 2nd Edition